

Cecal Perforation In Cases Of Ruptured Liver Abscess- A Rare Finding In A Common Pathology.

Dr. Shivendra Shukla, Dr. Gaurav Sharma, Dr. Mohit Singhal

Senior Resident Department Of General Surgery SRMS-IMS

Senior Resident Department Of General Surgery SRMS-IMS

Senior Resident Department Of General Surgery SRMS-IMS

Date of Submission: 23-05-2025

Date of Acceptance: 03-06-2025

I. Introduction-

Liver abscess is collection of pus in the liver parenchyma. It can be amoebic or pyogenic. Amoebic liver abscess (ALA) is the most commonly seen extra intestinal manifestation of *Entamoeba* infection.[1] The presentation includes wide spectrum depicting pathology from asymptomatic carrier state to dysentery to fulminant colitis or liver abscess and colonic perforation. The trophozoites penetrate the intestinal mucosal layer causing amoebic colitis which is carried along the portal circulation to produce liver abscess and this abscess may rupture into peritoneal, pericardial or pleural cavity. Thus, it carries a high rate of morbidity and mortality and mainly occurs in malnourished patients of developing countries. Symptomatic patients of amoebiasis, result in 40,000 to 100,000 deaths worldwide each year.[3] As such Perforation of the caecum from amoebiasis itself is infrequent. Primarily cecal pathology presents mainly as acute abdomen which poses a great challenge to timely manage as most cases are often misdiagnosed and thus require urgent intervention.[2] Intra Peritoneal rupture of amoebic liver abscess is reported in around 6 – 9%.[4] While bowel perforation from amoebiasis is very rare [5,6] And it is extremely rare to have both these complications occurring simultaneously. These pathologies often mimic acute appendicitis. This misdiagnosis can often lead to over or under-treatment of the actual pathology thus resulting in higher morbidity and mortality. Ruptured pyogenic liver abscess should be suspected if septic shock and diffuse abdominal pain are found in a patient with liver abscess. Thus, timely and accurate identification of a primary cecal pathology is important so that patient outcome can be improved. We managed similar cases in the Department of General Surgery at SRMS IMS.

II. Materials And Method-

A total of 64 patients were presented as acute abdomen out of which 24 patients were diagnosed with ruptured liver abscess and 21 were subjected to surgery. Duration of study was 11 months from Aug 2023 to July 2024 at Shri Ram Murti Smarak Institute of Medical Sciences in the Department of General Surgery.

Inclusion criteria included Patient presented with acute abdomen with diagnosis of ruptured liver abscess, age >18 years, both sexes and not operated elsewhere.

Exclusion criteria included severe ill patients who were not fit to undergo surgical intervention, Patients with other causes of gut perforation causing peritonitis. Referred from outside after the laparotomy and not willing to undergo surgical exploration.

All the cases which were diagnosed with ruptured liver abscess were aggressively resuscitated, undertaken investigations like complete blood count, blood group, coagulation profile, serology, chest X-ray, abdomen X-ray, ultrasonography and then shifted to operation theatre. Intraoperative findings like pus and fecal filled peritoneal cavity, abscess cavity in liver, perforation in large bowel were seen mainly in I-C junction part were documented. Postoperatively, all patients received antibiotics and were discharged accordingly, later followed up for further course of treatment in outpatient department.

III. Discussion-

Entamoeba Histolytica is primarily an intra-luminal living organism of the large bowel. After consumption of an amoebic cysts via feco-oral route, cysts travel through the small intestine to the large intestine where they spring up the trophozoite stage that invades the bowel wall. Primarily the lesions are located in the large intestine though some may be seen in the terminal ileum. Initial lesions are more commonly localized in those fields where the colonic flow is slow, likely the cecum and recto sigmoid. The initial lesion is pinhead sized, but with rise in mucosal edema central ulceration results. Ulceration is mainly localized to mucosal epithelium and lamina propria. But when the ulcers progress to the muscularis propria they extend

laterally along the axis of the intestine undermining the overlying mucosa. The communication of these laterally spreading ulcers with the intestinal lumen through a narrow mucosal defect creates the so called "flask like" ulcers. Sometimes In advanced cases, ulcers progress beyond the muscularis propria and penetration results in a perforation of the intestinal wall. These perforations commonly occur in the cecum.⁵

There are several causes of cecal pathology presenting with acute abdomen which have been described in literature as sporadic case studies. Albers et al. proposed a classification of cecal perforation which is even relevant today give or take a few clinical entities cecal pathologies can present as acute abdomen either as standalone entities involving the cecum or in the form of cecal perforation. The incidence of intraperitoneal rupture of amoebic liver abscess is between 6-9 percent. Ultrasound (USG) scan of the abdomen helps in the delineation of hepatic abscesses. X-ray of the chest helps in the detection of spread to the pleura, lung, or pericardium. Conservative management is applicable to very few cases of cecal pathologies such as typhillitis responding to medical management or localized abscess of cecum without any perforation. Early surgical intervention remains the mainstay of treatment in all cases of ruptured liver abscess with peritonitis.

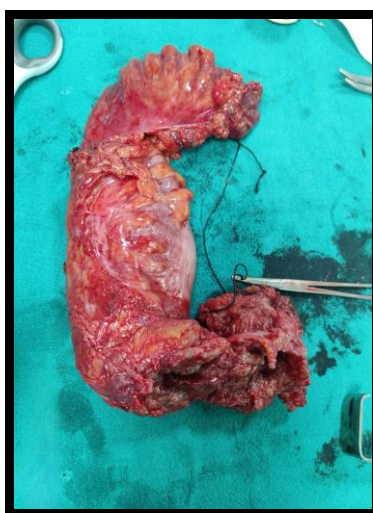


Image 1

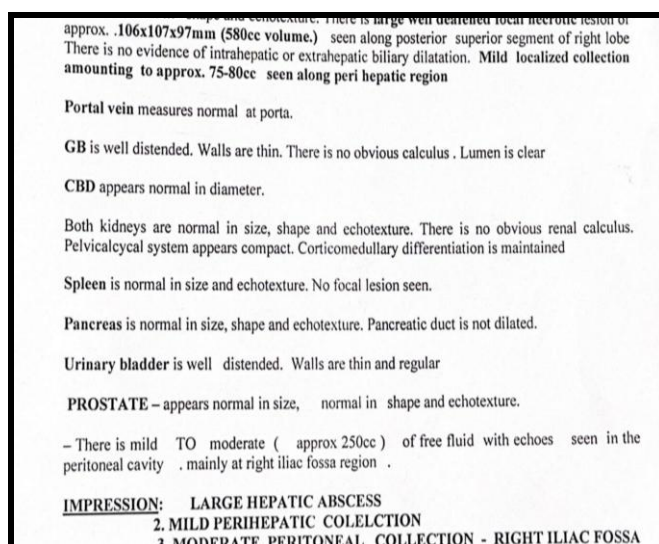


Image 2

Image 1. Shows the perforated cecum in the resected segment (Arrow mark)

Image 2. Shows the Ultrasound findings in a patient presented to emergency with acute abdomen

IV. Result-

Our study showed that there is predominance of middle aged men (57%) suffering from the ruptured liver abscess this may be attributed to the fact that the middle aged people are chronic alcohol abusers or mainly work with livestock for living, poor sanitation and hygiene practice also contribute to the etiology of liver abscess. The most common presenting symptoms were pain abdomen (85%), respiratory distress (61%) which

complex patient to seek hospital visit. They also had associated complaints of not able to pass stool and flatus with history of fever. Out of 21 patients 15 patients were operated in emergency and 6 patients were operated in routine. Right hemicolectomy with diversion ileostomy was the most performed (61%) procedure in 13 patients. Primary repair of cecum with diversion stoma (23%) was done in 5 patients. 3 patients were treated with tube cecostomy (14%)

Out of 21 patients 6 patients had mortality (28%) due to development of severe sepsis, 15 patients were further followed up and were treated symptomatically on opd basis.

Age (Years)	Number of Patients
18-25	05
25-45	12
>46	04

Table 1. Shows Predominance of middle aged patients (57%)

Gender	Number of Patients
Male	15
Female	06

Table 2. Shows that the more affected population is of males

Procedure	Number of Patients
Right Hemicolectomy with diversion stoma	13
Primary Cecal Repair with diversion stoma	05
Tube Cecostomy	03

Table 3 shows Right Hemicolectomy with diversion stoma as most common procedure performed.

Symptoms	Number of Patients
Fever	14
Abdominal Pain	18
Obstipation	15
Difficulty In Breathing	13

Table 4 Shows the symptoms patient presented with, most common being pain abdomen followed by obstipation and fever

V. Conclusion-

Patients presenting to emergency with acute abdomen should be treated with resuscitation and varied differentials are to be kept in mind. In settings of fever and acute abdomen with signs of peritonitis ruptured liver abscess is to be kept in mind. Proper investigation and prompt surgical intervention via laparotomy must be subjected in order to achieve optimal treatment. Perforated amebic typhillitis in setting of ruptured liver abscess should be kept in mind as a differential diagnosis and must be treated accordingly as failure to intervene promptly may lead to high mortality or complications.

References-

- [1] Stanley SI Jr. Amoebiasis. Lancet. 2003;361(9362):1025–1034.
- [2] Haque R, Huston Cd, Hughes M, Houpt E, Petri Wa Jr. Amebiasis. N Engl J Med. 2003;348(16):1565–1573.
- [3] Shirley Da, Moonah Sn, Petri Wa Jr. Entamoeba Histolytica Infection. Nat Rev Dis Primers. 2019;5(1):49.
- [4] World Health Organization. Amoebiasis Fact Sheet. 2021.
- [5] Singh A, Kaur M, Singh S. Amoebic Perforation Of The Cecum: A Rare Complication. Indian J Surg. 2010;72(6):481-483.

- [6] Memon Aa, Kazi S, Memon Jm. Ruptured Amoebic Liver Abscess: Management And Outcome. J Coll Physicians Surg Pak. 2013;23(3):203-207.
- [7] Agrawal N, Singhal V, Sharma D. Simultaneous Amoebic Liver Abscess Rupture And Bowel Perforation: A Case Report. Int J Surg Case Rep. 2018;47:87-89.
- [8] Albers Jw. Classification Of Cecal Perforations. Surg Gynecol Obstet. 1971;133(4):637-642.
- [9] Ravdin Ji, Petri Wa Jr. Entamoeba Histolytica. In: Mandell Gl, Et Al., Editors. Principles And Practice Of Infectious Diseases. 7th Ed. Elsevier; 2010.
- [10] Stanley Sl Jr. Amoebiasis. Lancet. 2003;361(9362):1025-1034.
- [11] Khanduri A, Singh Dk. Amoebic Colitis And Complications: A Review. Int Surg J. 2019;6(4):1394-1400.
- [12] Albers Jw. Cecal Perforation. Am J Surg. 1971;122(5):674-680.
- [13] Rajakumar G, Anand S, Prasad R, Krishnamurthy S. Management Of Ruptured Amoebic Liver Abscess. World J Surg. 2006;30(12):2287-2291.